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An Inaugural Dissertation on Phthisis Pulmonalis;

submitted by

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The period is now fast approaching when, in conformity to the regulations of our University, an Essay on some subject connected with Medicine must be submitted to the examination of those, on whom has devolved the important duty of enriching our minds with useful information and thereby of qualifying us if not always to combat successfully with disease; at least to meet the Aggressor with confidence to check his inroads upon that frail tenement, the preservation of which is to be the first great object of our care.
On a review of the various maladies which swell the formidable catalogue of diseases, I have been induced to select as the subject of this Essay, Phthisis Pulmonalis or Pulmonary Consumption: to this theme my attention has been directed, no less, on account of the interest which it intrinsically possesses, than with a view to collect & exhibit, in a condensed form, the opinions

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of such authors, as time and opportunity have enabled me to consult; to compare their respective modes of treatment, and thus to form for my future guidance an outline of the practice, which, in the hands of enlightened and experienced practitioners, has been found best calculated to check the threatening symptoms of disease & to assuage the sufferings of the less fortunate being, on whom it may have laid its hand with a more determined grasp.

Would it were in my power to offer some practically useful suggestions, the fruits of my own experience; "sed omnes non possumus omnia" and the medical student, who, yet a mere tyro in his profession, would fain lay an offering at the foot of aescu-lapius's altar, must be content with the humble task of gleaning it from the wisdom & observation of the more experienced.

Previously to entering on the more immediate consideration of the subject before us it may not be improper, with a view to the explanation of terms which will frequently present themselves, in the course of this essay

Essay, to premise a few remarks on the nature, origin and peculiarities of Tubercles & the distinguishing characteristics of Pus and Mucus. And first

Of Pus and Mucus.

By Sir Everard Home we are made acquainted with a decisive mode of distinguishing Pus from animal mucus; to wit; that the former is composed of globules, visible through a microscope, whereas mucus appears to be made up of flakes;- a property first noticed by the celebrated & indefatigable Mr. John Hunter.

The "light straw coloured fluid" in which these globules are suspended, is coagulable by Muriate of ammonia.

According to the experiments of Mr. Charles Darwin if to a solution of expectorated matter, in Sulphuric acid and Caustic lixivium, pure water be added, and a precipitation take place, it is a certain indication of the presence of Pus.

Again, a solution of the Deuto-Chloride of Mercury will coagulate Mucus, but not Pus.

Lastly, Pus is heavier than water, & sinks in it without mixing.

Of Tubercles

These were formerly imagined to be indurated glands, but anatomical investigation has shewn the incorrectness of this opinion, and demonstrated "that there is no glandular structure in the cellular connecting membrane of the lungs; on the inside of the branches of the Trachea, where follicles do exist, tubercles have never been seen". (Vide Baillie's Morbid Anatomy.) These bodies, at first inconsiderable in size, gradually increase in magnitude, their ordinary bulk being that of a garden pea, though in some rare instances, they attain the size of a nutmeg. When opened their structure appears to be cartilaginous sometimes hard, at others discharging a grumous matter resembling that which issues from the cut surfaces of scrofulous ulcers: as the disease advances, this discharge becomes more decidedly purulent and a greater quantity of matter is contained in each tubercle; when they have increased considerably in size, several are united & the larger bodies thus formed, are, in technical language, termed Vomicae. –

True

True Tubercular Phthisis, according to the observation of Armstrong, occurs only in persons of a strumous temperament. He thinks it questionable whether tubercles are ever formed in the lungs without an hereditary predisposition to them: this predisposition consisting in an unusual irritability of the capillary arteries in the cellular membrane of the lungs, which vessels being stimulated by some cause irritating those organs, may give rise to the production of tubercles, & thus lay a foundation for the commencement of Phthisis. We are not to suppose that the disease manifests itself immediately on the formation of those morbid tumors: on the contrary, they may long remain dormant, and dissection has discovered them, even in adult lungs, where, during life, there had been little reason to suspect any pulmonary affection. Their existence may be suspected, whenever, in consequence of trifling irritation, a short, dry, hacking cough is readily produced, indicating the presence of a slight inflammation, which originating in the mucous membrane of the lungs & extending itself into the cellular texture of those organs, deposits the matter of

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which these bodies are constituted" and at length, by renewed and repeated irritation, eventuates in the formation of an abscess." (Vide Reid.)

Among the ordinary causes giving rise to Phthisis, may be enumerated, great fatigue of body, a anxiety of mind, sedentary occupations, all debilitating excesses, a want of proper nourishment, and above all, perhaps, the sudden removal from a warm, to a cold, variable climate. From what source soever it may originate, there is a marked diversity in the constitutional tendency to Phthisis: in the emphatic language of a writer on this disease 'the destroying Angel, while 'requiring general retribution for certain deviations 'from nature, marks particular individuals for primary 'sacrifice'.

The characteristics of what may be termed a consumptive tendency, are, a slender frame, contracted chest with prominent shoulders, a predisposition to Haemoptysis, associated in many instances with certain indications of the scrofulous diathesis; viz: a fair

complexion

complexion, light or red hair, large veins, and a constitution characterized by great sensibility to outward impressions: sound teeth, with a peculiar degree of whiteness and transparency, have been said to attend upon every species of Consumption; this, says Dr. Reid, is far from being invariably the case, though he, at the same time, allows that there is less disposition to caries:
One peculiarity, marking the progress of the disease, of a strikingly interesting nature, must not be omitted; I allude to the cheerfulness, approaching almost to vivacity, so generally observable in the victims to this wasteful malady - The mind of the interesting sufferer, irradiated by hope, and buoyed up with expectation, busies itself in devising plans for the morrow, which are never to be realized, and looks forward, with a confidence approaching almost to infatuation, to a happy termination of the insidious disease, which, like the fabled Vulture of Prometheus, is ceaselessly preying upon his vitals. This freedom from dejection and despondency, is ingeniously referred by Dr. Chapman to the State

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of the Stomach, which vis-cus maintaining its integrity unimpaired, the appetite suffers no diminution, the spirits are supported and tone & vigour communicated to the mind: to the same cause may be ascribed the bright red colour of the tongue, so essentially different from the appearance of that organ in other febrile affections. Indeed, (observes Dr. Young in relation to the healthy state of the mental faculties in this disease) there is some reason to conjecture that the enthusiasm of genius and the delicate sensibility which leads to a successful cultivation of the fine arts, have never been developed in greater perfection, than where the constitution has been decidedly marked by that characteristic, often observable in the victims of Pulmonary Consumption.
To the correctness of this remark, the sad experience of the literary world has, too often, and too fatally, attested.

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Of the Exciting Causes.

Where there is a decided hereditary disposition to pulmonary affections, the disease may appear without any apparent exciting cause, but more commonly perhaps, the susceptibility to inflammatory action, is awakened by some catarrhal affection.

Inhaling the dust of hard substances, is found to have an indisputable tendency to excite the disease; hence needle-pointers, stone-cutters &c. are peculiarly ~~subject to~~ pulmonary attacks: equally exempt, on the other hand, are Sailors, Gardeners, Husbandmen and others who are inured from boyhood to a boisterous, active life, breathed for the most part in the pure atmosphere of the sea, or of the country.

On the contrary, the sedentary occupations of tradesmen and manufacturers render them peculiarly liable to similar attacks; hence it is, that Great Britain is destined annually to mourn the loss of three score thousand of her subjects "sacrificed" in the impressive words of Dr. Johnson, "at the altar of Phthisis.

Among the exciting causes, may be enumerated, several

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the Exanthemata; and more particularly, Measles are of this description. Chlorosis not unfrequently ends in Consumption: there is genually the intermediate stage of Haemoptysis, but in Chlorotic females a short dry cough, even without pain in the chest, is to be cautiously watched.

Malconformation of the thorax, by preventing the growth of the lung in proportion to the rest of the body, may produce similar effects: in the same way tight lacing, so apt to be carried to excess by the votaries of fashion, may prove injurious.

It is worthy of remark that pregnancy, almost uniformly, suspends the disease, and where this has been the case, mothers should be cautioned against nursing their infants too long; which alone, by inducing a state of debility, has been known to prove an original existing cause of Consumption. Amenorrhoea on the contrary, by some considered a cause, is more probably the consequence of the impaired condition of the constitution.

If the former idea be correct, it should be remembered that an irritation not dangerous in itself, may prove so, if it exist in a constitution where there is a marked

tendency

tendency to Phthisis: hence the removal of such exciting causes should be promptly, and carefully, attended to.

Many interesting cases of pulmonary affections associated with original disease of the Liver, Spleen &c are to be found in a well written paper on the pathology of Consumptive diseases from the pen of Dr. Abercrombie; and Armstrong mentions Stricture of the Urethra as often times being the unsuspected cause of thoracic complaints.

What shall we say with regard to the contagious nature of consumption? respectable authority is not wanting in support of the affirmative side of this question, and the circumstance, mentioned by Dr. Rush, corroborative of this opinion, would alone be sufficient to render it imprudent unnecessarily to expose an individual who had the slightest predisposition to Consumption, to the danger of an attack, by allowing him to sleep in the same chamber, or constantly to live in the same room, with a phthisical patient. - Portal on the contrary thinks all precautions absolutely superfluous.

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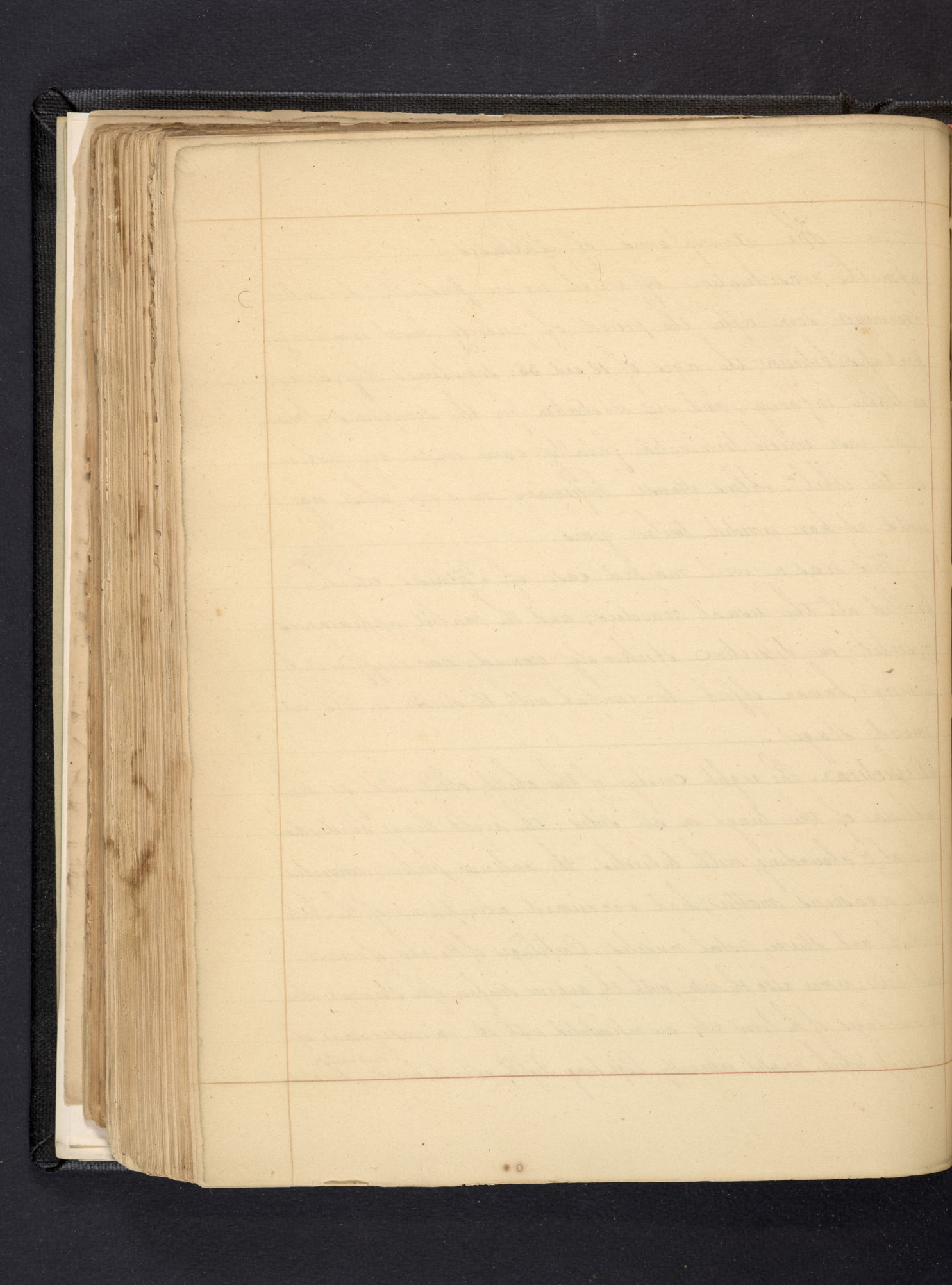
The Symptoms of Phthisis,
upon the consideration of which we are presently to enter, commence soon after the period of puberty, most commonly, perhaps, between the ages of 18 and 35: sometimes they appear in tender infancy, and are mistaken for the symptoms of worms. One case which terminated fatally came under my notice in the Phil.a Alms House Infirmary in a boy whose age could not have exceeded twelve years.

This was a well marked case of Phthisis, which baffled all the usual remedies; and the morbid appearances presented on dissection strikingly evinced how inefficient is every human effort, to combat with the disease in its advanced stage.

Dissection. The right cavity of the chest obliterated by the adhesion of the lungs on all sides: the right lung harder than natural, & abounding with tubercles, the anterior portion, converted into a caseous matter, had occasioned absorption of the Intercostal and Sterno-costal muscles: Cartilages of the ribs, of course, laid bare, as was also the case, with the anterior surface of the Sternum, where the cartilages of the lower ribs are articulated with it, in consequence of an abscess which pointed externally. Left lung slightly adherent, but not materially diseased.



The symptoms of Phthisis, have been very properly divided into the inflammatory and suppurative: in the earlier stages, it, not unfrequently, steals on the unguarded patient, in the insidious form of a Catarrh a common cold: this is attended with an increased secretion, from the mucous membrane lining the nose, fauces and bronchiae; and a cough is excited, accompanied with more or less expectoration of mucus. That there is a degree of general irritation, is shewn, by the increased frequency of the pulse, the thirst and impeded respiration. When we recollect, that the membrane lining the nostrils, is continuous with that which forms the innumerable air-vessels of the lungs, we are at no loss to conceive, in what manner the inflammatory action is communicated to those organs - the existence of which, is strikingly indicated, by the dry tickling cough, the difficulty of breathing and the pain, or uneasiness, in a fixed part of the chest, on making a deep inspiration. As the disease advances, the frequent weak pulse ranging from 100 to 120, the flushed cheek, night sweats, alternating as they not unfrequently do, with the supervening Diarrhoea, and in

females

females, the suppression of the catamenia, indicate but too plainly the presence of hectic irritation: this state of things once established, discouraging as it undoubtedly is, yet the benevolent practitioner will leave nought unessayed that art or friendship can devise, for the relief or comfort of his patient.

The worst form of Phthisis is that derived from a hereditary taint, where accidentally induced it is much less to be dreaded. Under the former circumstances, it is worthy of remark, that the disease does not pass invariably, from an ancestor to his immediate offspring; one generation may escape, and the next feel it in full force. Instances of this are mentioned by Dr. Parrish in his valuable lectures to his medical class.

It has been stated that there is, generally, an unusual clearness of intellect to the latest period of existence; but, this gentleman has met with more than one case which terminated in genuine mania.

Having

Having spoken of the origin, progress and peculiarities of Consumption, we are prepared, now, to enter on the treatment of the disease; and here an extensive field is opened to the practitioner; at every step some new remedy presents itself to his view, yet will he not suffer his judgment to be bewildered, for the experience of others has tested their inefficacy, and they now stand, divested of that portion of confidence, to which the ephemeral reputation, they may have once enjoyed, seemed to entitle them.

To Dr. Young's elaborate treatise on Consumptive diseases, we are indebted for much information relative to the ratio medendi pursued by the ancient physicians: but, unfortunately, a review of their practice affords less of instruction, than of amusement. Who can forbear smiling at the gravity, with which, the elder Pliny enumerates as specifics for consumption, an infusion of wolf's liver in wine, the lard of a lean sow, & the yet greater delicacy, of pulverized bullocks' horns formed into an electuary with honey! The remedies of the present day, tho' perhaps as little entitled to the epithet of 'Specifics', are certainly less preposterous.

Notwithstanding the deservedly high encomiums passed, by Sydenham, upon the advantages of exercise, particularly on horseback; we are apprized upon the authority of Dr. Dorr of the superiority of a practice, which I cannot but deem hazardous, though supported, in later times, by the illustrious name of Rush. I need not say that my allusion is to the practice of frequently repeated venaesection. In the incipient stages of pulmonary inflammation, the detraction of blood is, as a general rule, no doubt correct; and in the more violent forms of Pneumonia, which, being neglected, rapidly degenerate into confirmed Phthisis, even the most timid will readily acquiesce in the importance of the measure: but, in phthisical habits, we must never fail to recollect, that copious losses of blood may lay the foundation for this gigantic form of disease and should steadily keep in view the correctness of the aphorism, "that moderation, is the golden rule, in regard to venaesection". Such are the sentiments of Armstrong & in them some of our most judicious physicians explicitly coincide. It is contended, on the other hand,

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that this is an inflammatory disease: and that reason and analogy point to the lancet as the sine qua non for its removal from the system - but do not the peculiarities of function, and structure, in the pulmonary organs, superadded to the specific nature of the disease completely defeat the force of arguments which rest upon analogy for their basis? Where injuries are inflicted on the muscular system, upon parts which can be kept in a state of complete quiescence, we detract blood with undoubted advantage; but the lungs, let it be remembered are almost incessantly in a state of motion, which under all circumstances, retards the healing process. I have mentioned, incidentally, the specific nature of the disease. "The reason", says a writer on this subject, "why an Ulcer, formed in consequence of the consumptive diathesis, is not disposed to heal, must be; not, that it is an Ulcer of the lungs, but that it is an Ulcer, possessing some peculiar acrimonious properties"; could these properties be once corrected a consumptive Ulcer might be healed; and, who can say, that nature in her kindness, does not possess an antidote to the poison which endues the Ulcer with these

properties.

properties, and that chance, or skill, may not direct physicians to its discovery? That such an antidote is presented to us in the frequent use of the lancet, is an idea, which I confess myself little disposed to adopt: for we are told, and upon high authority, that bleedings, too frequently repeated, or too obstinately persisted in, will often render "the pulse irritable and the blood sizy".

On this subject much more might be written, but enough has been advanced to explain my sentiments with regard to venaesection: though emphatically termed the right arm of medicine, it cannot, I believe, in the case now under consideration, be pursued, beyond certain limits without prejudice to our patient. On the correctness of this opinion I rely, with the greater confidence, as I am supported in it by the authority of the professor of practice in our university, who urges us to bear in mind, on the one hand, the importance of the remedy in subduing inflammation, while we recollect, on the other, the tendency it has, to increase the debility of the patient.

When the lancet can be safely pursued no farther, we

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have a secure, and efficient resource, in the application of Cups, with or without scarification: the latter mode, to which we are informed Dr. Physic is very partial, "acts not only as a diverticulum, but also as a counter-irritant, on the principle of the vesicating applications". With regard to the latter, Armstrong recommends, even in the confirmed state of Phthisis, small blisters to the chest applied in quick succession; or what, perhaps, is better, the production of a crop of pimples, by the use of the Tartar-Emetic plaster: this, in a case of Haemoptysis attended with cough (but without purulent expectoration) which occurred in the Alms House, was applied with decided benefit. Several instances are cited by the author, just mentioned, in support of the good effects of counter-irritation on the skin in incipient phthisis; one in which the symptoms wholly disappeared, upon the coming out, and continuance, of a spontaneous rash. A similar case occurred in the practice of Dr. Parrish, from whose ample experience and judicious observation, information may be derived upon every subject connected with the pursuit of his profession.

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The outlines of this case I will take the liberty of mentioning. A child in the family of Mr. M. whose sister had fallen a victim to consumption, was attacked with the Scrofula Interna of children. The Doctor made a number of superficial incisions from behind the ear, a considerable distance down the neck, into these incisions the vaccine virus was introduced, an extensive vesicle, with considerable tumefaction, supervened. The scab was not allowed to form, the pustules were scarified, and care taken to keep them open, by the use of stimulating ointments. The child was greatly benefitted & if I mistake not, the alarming symptoms have disappeared.

Having previously insisted on the importance of exercise, I will proceed, briefly to enumerate the remedies which have obtained the greatest reputation, and will commence with Emetics. In the early stages of Phthisis they have been greatly recommended, and the Sulphates of Zinc, and Copper, are said to act like a charm. But, in those cases, which have been preceded by, or are accompanied with, haemoptysis, the action of vomiting is always dangerous. When expectoration is scanty, with a sense of oppression in the chest, a dose of Ipecacuanha

anka sufficient to excite slight vomiting, may be given with advantage. In order to derive any decided advantage from this class of medicines, Dr. Chapman directs them to be continued daily, or every other day, for one, two or three weeks. Thus, by frequency of repetition, imitating the effects of a sea-voyage. Alike, in the incipient, and confirmed stages of the disease, we have the concurrent testimony of Darwin, Drake & Beddoes in favour of the Digitalis Purpurea. Still there is no remedy which varies more, in the estimation of medical practitioners. As the result of repeated trials with this medicine, the profession of practice has used it with greatest advantage in cases of incipient Phthisis, where there is slight haemoptysis, attended with cough, and pain in the side and breast, an accelerated pulse, & where, on account of debility, venaesection is inadmissible. Mercurial Medicines are best adapted to those cases of obstinate cough which refuse to yield to the ordinary treatment, and seem to threaten a termination in Phthisis. In this form of the disease, which is termed Catarrhal Consumption, the cautious use of mercury, urged to a slight salivation, is of undoubted advantage. The foregoing remedies, with the occasional use of Laxative Medicines

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merely to keep the bowels in a soluble state, and of such Pectorals as are demanded by the condition of our patient, form the principal outline of treatment in the early stages of Phthisis.

As the disease progresses, when the alleviation of particular symptoms, is all that medicine can effect. Opium is invaluable, but, in the earlier stages, says Dr. Southey, when a few hours respite from the irritation of coughing is purchased at the price of increase of fever, when the sleep is disturbed by freightful dreams, & terminated by profuse perspiration and increased difficulty of breathing, the disease is hastened, rather than retarded by the remedy. Such sleep does not refresh; the mind is harrassed by imaginary evils, & the body quite as much exhausted, as it would have been, by a sleepless night. Of the substitutes for Opium, the Hyoscyamus is said to be the best: The Humulus Lupulus, a common Hop may sometimes be used with advantage and the Lactucarium, a soporific extracted from the garden lettuce, for which, though claimed elsewhere, we are doubtless indebted to the Professor of Mat: Medica in our own University, is well entitled to a trial.

Among the minor remedies, whenever profuse perspirations are

present

present, the Aromatic Sulphuric Acid, is the best of all the Refrigerants - a few drops of this, administered in a teacupful of the decoction of the bark of the Wild Cherry tree, may be classed among the most effectual preventives against profuse night sweats. This unpleasant attendant on Phthisis, is sometimes, greatly relieved by the exhibition of Dover's Powders. With a view of healing Ulcers in the lungs & facilitating expectoration, the fumes of certain Balsamics have been inhaled; those of the balsam of Tolu, were a favourite remedy with Mead. Pearson employs a saturated solution of the leaves of Cicuta in Ether. but these should never be recommended where there is any degree of inflammatory action, and perhaps, of all the vapours, those of warm water are to be recommended as safest. Tar fumigations and those of unwashed wool, as recommended by Dr. Physic, may also be tried:

For the purpose of imparting general vigour to the system, many of the vegetable and mineral tonics have been enlisted. among the latter, the preparations of Iron, have been found most beneficial; of the former, the Peruvian Bark, in decoction, a substance, or in the form of extract, appears to have succeeded best. Dr. Chapman thinks the cinchona

peculiarly

peculiarly adapted to those forms of Phthisis, which partake of the nature of ~~Phthisis~~ Intermittent - Of the Hydro-cyanic or Prussic Acid, of late so highly extolled by Magendie, I have little to say: the medicine has been fairly experimented with in the Alms House of this city, but, except as a palliative, I have witnessed little good effect from its use. At the same time, I may state, that in a Dyspeptic case wherein the patient was troubled with Pyrosis to a considerable degree, the prussic acid was exhibited & afforded speedy relief.

But it is time to bring my Essay to a close; were I to extend its limits, and to pursue the subject with systematic minuteness, a variety of remedies, & modes of practice, might be detailed; but, aware of my inability to suggest any thing new, I willingly decline the unprofitable recital, and hasten to conclude, by briefly stating, what is undoubtedly no unimportant branch of our subject, the prophylactic measures best calculated to ward off an attack, in those persons who have a predisposition to Phthisis. Where this condition is suspected, sedentary occupations should be sedulously avoided and the importance of fresh air, and exercise, as strictly enjoined.

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Doctr Rush mentions the instance of a riding postman who was relieved by the pursuit of his occupation, and many interesting cases, of a parallel nature, are to be found in the Mss. Lectures of Dr. Parrish. In the incipient stages of Phthisis, when the disease has not yet developed itself, a removal to a warm climate either on horseback or by a sea voyage should be resorted to - but to be efficient, the measure must be prompt. To subject our unfortunate patient to a long course of medical treatment, and when his system is impaired by these unavailing efforts, to recommend, as a dernier resort, the relinquishment of the comforts of home, and the sympathy of friends, is, it appears to me, to deprive him of the only endearments which can alleviate his sufferings, and this too, with little hope of an equivalent, in the improvement which his health is likely to derive from the sacrifice.

The Clothing of the patient should be carefully adapted to the climate, and every vicissitude not only of season, but of temperature, should be met by a corresponding change in dress: flannel should invariably be worn, & for delicate females the dressed rabbit skin, is deemed an excellent preventive against

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the ill effects of the inclemency of winter.

With these remarks, to which I must again solicit the indulgence of my professors, I take leave of the interesting subject of Pulmonary Consumption.

How long it is destined to retain a station, so conspicuous, among the diseases which are emphatically termed, the opprobria Medicinae, is not for me to conjecture:- its treatment is of acknowledged difficulty, but, in a field where so much remains undone, the well directed efforts of the discreet practitioner may effect not a little. Let us not then despair of success; "From torpid despondency", says the elegant author of the Adventurer, "can come no advantage, it is the frost of the soul which binds up all its powers and congeals life in perpetual sterility:- He that has no hopes of success will make no attempts; and where nothing is attempted, nothing can be done".